

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-002528**Date Inspected:** 11-Mar-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 630**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1700**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Xu Xian Ping and See Below**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** Tower and OBG Components**Summary of Items Observed:**

The Caltrans Quality Assurance (QA) Inspector, M. Paul Stovall, was present at Zhenhua Port Machinery Company (ZPMC) on Changxing Island, Shanghai, China for the purpose of monitoring Quality Control (QC) functions during the fabrication of the Self Anchored Suspension (SAS) and Orthotropic Box Girder (OBG) sections of the San Francisco/Oakland Bay Bridge.

**OBG Pre-Assembly Area****Bay 2**

The QA Inspector observed ZPMC personnel position the 77-Meter Mock-Up on a fixture.

**Bay 3**

The QA Inspector observed ZPMC welding personnel Zhang Feng, ID #049760 and Liu Daiquan, ID #066401 using the Shielded Metal Arc Welding (SMAW) process to tack weld WT stiffeners on Side Plates (SP) SP469-001 and SP561-001.

The QA Inspector observed ZPMC personnel grinding splice welds on various W21 x 57's and removing paint on various bottom plates for the fit up of stiffeners.

**Bay 4**

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## WELDING INSPECTION REPORT

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ZPMC personnel appear to be struggling to achieve and maintain the minimum preheat temperature without exceeding the maximum interpass temperature for production welding on Internal Tower Diaphragm Plate splice SSD1-SA27-A/B-1B. ZPMC started preheating the weld joint at approximately 0800. ZPMC is using oxy-acetylene torches and ceramic heating pads for preheating the material. Thermocouples are not being used to control the temperature of the ceramic heating pads. The Certified Welding Inspector (CWI) Zhu Zhong Hai monitoring the preheating does not appear to be monitoring the temperature for the full length of the weld joint. At approximately 1100 adequate preheat has still not been established. At approximately 1300 the temperature of the material was stabilized between the minimum preheat and maximum interpass temperature and welding was started at 1320. Shortly after welding began, ZPMC stopped welding due to equipment problems with the wire feed. ZPMC corrected the problem and welding was resumed in a timely fashion. The QA Inspector verified the following welding parameters: 632 amperes and 29.9 volts with a travel speed of 470 millimeters (mm) per minute.

### Summary of Conversations:

The QA Inspector had no significant conversations.

### Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mazen Wahbeh, (818) 292-0659, who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	Stovall,Paul	Quality Assurance Inspector
<b>Reviewed By:</b>	Hager,Craig	QA Reviewer

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